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FILE 'USPAT' ENTERED AT 11:52:42 ON 24 AUG 1999
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  *        U. S.  PATENT  TEXT  FI                              *
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=> s sample?(7a)frit?

        394447 SAMPLE?
         19560 FRIT?
L1         424 SAMPLE?(7A)FRIT?

=> s l1 and 210/198.2/cclst

          1341 210/198.2/CCLST
L2          27 L1 AND 210/198.2/CCLST

=> d 1-27
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1. 5,874,005, Feb. 23, 1999, Macrocyclic antibiotics as separation agents; Daniel Amstrong, 210/635, **198.2**, 502.1, 656 [IMAGE AVAILABLE]

2. 5,863,428, Jan. 26, 1999, Guard cartridge for chromatography; Qi-Feng Ma, et al., **210/198.2**; 96/101; 210/656 [IMAGE AVAILABLE]

3. 5,755,559, May 26, 1998, Apparatus and method for pumping supercritical fluid and measuring flow thereof; Robert William Allington, et al., 417/53; 73/861.43, 861.44; 210/101, **198.2**, 634, 741; 417/18, 20, 22, 43 [IMAGE AVAILABLE]

4. 5,690,828, Nov. 25, 1997, Apparatus and method for supercritical fluid extraction; Dale Lee Clay, et al., 210/634; 96/106; 210/97, 175, **198.2**, 744; 422/63, 69 [IMAGE AVAILABLE]

5. 5,667,676, Sep. 16, 1997, Side-packed chromatographic column; Andrew B. Alaska, **210/198.2**; 96/105; 210/656 [IMAGE AVAILABLE]

6. 5,660,727, Aug. 26, 1997, Automated analyte supercritical fluid extraction apparatus; Gary L. Gleave, et al., 210/141, 149, **198.2**, 511, 634; 422/63, 64 [IMAGE AVAILABLE]

7. 5,653,885, Aug. 5, 1997, Apparatus and method for supercritical fluid extraction; Daniel Gene Jameson, et al., 210/634; 95/87; 96/105; 210/149, **198.2**, 511, 656, 742; 422/69 [IMAGE AVAILABLE]

8. 5,651,885, Jul. 29, 1997, Column for liquid chromatography; Hans G. Schick, **210/198.2**, 656 [IMAGE AVAILABLE]

9. 5,626,757, May 6, 1997, Macrocyclic antibiotics as separation agents; Daniel Armstrong, 210/635, **198.2**, 502.1, 656 [IMAGE AVAILABLE]

10. 5,614,089, Mar. 25, 1997, Apparatus and method for supercritical fluid extraction or supercritical fluid chromatography; Robert W. Allington, et al., **210/198.2**, 511, 634, 656, 659; 422/256, 261, 285 [IMAGE AVAILABLE]

11. 5,601,707, Feb. 11, 1997, Apparatus and method for supercritical fluid extraction or supercritical fluid chromatography; Dale L. Clay, et al., **210/198.2**, 511, 634, 656; 422/256, 260 [IMAGE AVAILABLE]

12. 5,531,959, Jul. 2, 1996, Automated liquid handling and computer controlled system and method for solid phase chromatographic extractions;

James E. Johnson, et al., 422/70; 73/61.56; 96/19, 22, 23, 102; **210/198.2**, 656, [redacted], 741; 422/62, 81, 89, 101; 4[redacted]161 [IMAGE AVAILABLE]

13. 5,462,659, Oct. 31, 1995, Chromatography column; Vinit Saxena, et al., **210/198.2**; 96/106; 210/238, 656; 422/70 [IMAGE AVAILABLE]

14. 5,338,448, Aug. 16, 1994, Method of preventing contamination of a chromatography column; Douglas T. Gjerde, **210/198.2**; 96/101, 102; 210/656 [IMAGE AVAILABLE]

15. 5,238,556, Aug. 24, 1993, Chromatography tube for use within a pressurized circuit; Hamid Shirkhan, **210/198.2**, 656 [IMAGE AVAILABLE]

16. 5,147,538, Sep. 15, 1992, Field-portable apparatus and method for analytical supercritical fluid extraction of sorbent materials; Bob W. Wright, et al., **210/198.2**; 96/101; 210/181, 541, 634, 656, 659; 422/70 [IMAGE AVAILABLE]

17. 5,087,360, Feb. 11, 1992, Field-portable apparatus and method for analytical supercritical fluid extraction of sorbent materials; Bob W. Wright, et al., **210/198.2**; 96/101; 210/181, 634, 656, 659; 422/70 [IMAGE AVAILABLE]

18. 4,966,696, Oct. 30, 1990, Method of making a frit; Robert W. Allington, et al., **210/198.2**, 510.1, 656; 419/8, 9, 46 [IMAGE AVAILABLE]

19. 4,911,837, Mar. 27, 1990, Apparatus for reducing tailing in a liquid chromatograph; Robert W. Allington, et al., **210/198.2**, 510.1 [IMAGE AVAILABLE]

20. 4,876,005, Oct. 24, 1989, High pressure column assembly for a liquid chromatograph system; William G. America, **210/198.2** [IMAGE AVAILABLE]

21. 4,863,592, Sep. 5, 1989, Apparatus for reducing tailing in a liquid chromatograph; Robert W. Allington, et al., 210/96.1, **198.2**, 510.1; 422/70 [IMAGE AVAILABLE]

22. 4,765,890, Aug. 23, 1988, Apparatus for reducing tailing in a liquid chromatograph; Abolghassem Y. Tehrani, et al., **210/198.2**, 510.1; 425/174.6, 406, 407, 421, 424 [IMAGE AVAILABLE]

23. 4,759,843, Jul. 26, 1988, Apparatus for reducing tailing in a liquid chromatograph; Robert W. Allington, et al., **210/198.2**, 96.1, 510.1; 425/174.6, 406, 407, 421, 424 [IMAGE AVAILABLE]

24. 4,752,391, Jun. 21, 1988, Column for preparative liquid chromatography; Bedrich Porsch, et al., **210/198.2**; 96/105 [IMAGE AVAILABLE]

25. 4,676,898, Jun. 30, 1987, Chromatography column using horizontal flow; Vinit Saxena, **210/198.2**, 656 [IMAGE AVAILABLE]

26. 4,627,918, Dec. 9, 1986, Chromatography column using horizontal flow; Vinit Saxena, 210/656, **198.2** [IMAGE AVAILABLE]

27. 4,545,904, Oct. 8, 1985, Apparatus for reducing tailing in a liquid chromatograph; Abolghassem Y. Tehrani, et al., 210/96.1, **198.2**; 422/70 [IMAGE AVAILABLE]

=> d kwic 15

US PAT NO: 5,238,556 [IMAGE AVAILABLE] L2: 15 of 27
US-CL-CURRENT: **210/198.2**, 656

SUMMARY:

BSUM(10)

Additionally, for ease of use, the tube may be pre-packed with a chromatographic separation medium and permeable polytetrafluorethylene **frits** through which the **sample** must migrate before exiting the tube. The **frits** hold the separation medium in place within the tube during use and facilitate packing the tube during fabrication. The frits. . .

DETDESC:

DETD(15)

When the column 40 thus formed is used in a test station 10, a **sample** 22 must migrate through the porous polytetrafluorethylene **frits** 44 and each layer of chromatographic media 46 sequentially before exiting the column 40. Following the test, the column 40. . .

DETDESC:

DETD(16)

Another . . . is a gravity fed device with the sample 22 being fed into the top of the tube 48 from a **sample** reservoir 60, migrating through a first **frit** 44, the medium 46, a second frit 44 and dripping out of the bottom of the tube 48 into a. . .

=> d kwic 1-27

US PAT NO: 5,874,005 [IMAGE AVAILABLE] L2: 1 of 27
US-CL-CURRENT: 210/635, **198.2**, 502.1, 656

DETDESC:

DETD(255)

Using . . . 10 is foam column 14, which is packed with glass beads 16. Air 18 is blown through piping 20, through **frit** 22 and into **sample** chamber 10. The air bubbles passing through sample 12 cause a foam to be formed. The height of the foam. . .

US PAT NO: 5,863,428 [IMAGE AVAILABLE] L2: 2 of 27
US-CL-CURRENT: **210/198.2**; 96/101; 210/656

DETDESC:

DETD(4)

FIG. . . . liquid mobile phase from leaking. Tubing 370 is attached to endfitting 350 by end nut 360. Liquid mobile phase and **samples** come from tubing 370, pass through **frit** 352 of endfitting 350, stationary phase 342 of guard cartridge 340, and porus portion 322 of frit 320, and enter. . .

US PAT NO: 5,755,559 [IMAGE AVAILABLE] L2: 3 of 27
US-CL-CURRENT: 417/53; 73/861.43, 861.44; 210/101, **198.2**, 634, 741; 417/18, 20, 22, 43

DETDESC:

DETD(41)

For . . . 2 for a 10 cubic centimeter volume to receive sample. After passing the extraction volume fluid, it is exhausted for **sample** collection through **frit** 160, passageway 260, fitting adapter 214 and out through fitting 46.

DETDESC:

DETD(51)

Before . . . is screwed onto the bottom of extraction tube 152. The internal cavity 158 is then filled or partly filled with **sample** to be extracted. The **frit** 162 and top cap 174 are then screwed on to the top of extraction tube 152 forming the cartridge and. . .

US PAT NO: 5,690,828 [IMAGE AVAILABLE] L2: 4 of 27
US-CL-CURRENT: 210/634; 96/106; 210/97, 175, **198.2**, 744; 422/63, 69

DETDESC:

DETD(36)

For . . . 2 for a 10 cubic centimeter volume to receive sample. After passing the extraction volume fluid, it is exhausted for **sample** collection through **frit** 160, passageway 260, fitting adapter 214 and out through.fitting 46.

DETDESC:

DETD(46)

Before . . . is screwed onto the bottom of extraction tube 152. The internal cavity 158 is then filled or partly filled with **sample** to be extracted. The **frit** 162 and top cap 174 are then screwed on to the top of extraction tube 152 forming the cartridge and. . .

US PAT NO: 5,667,676 [IMAGE AVAILABLE] L2: 5 of 27
US-CL-CURRENT: **210/198.2**; 96/105; 210/656

SUMMARY:

BSUM(17)

The . . . sample enters the column through an inlet port located in the center of the column, it spreads evenly over the **frit**. The portion of the liquid **sample** that flows through the center of the sorbent follows a shorter path and reaches the outlet port before the portion. . .

DETDESC:

DETD(9)

Columns . . . formed in the upper lid. The liquid sample then leaves the small recessed space and spreads evenly across the upper **frit**. The liquid **sample** then flows through the upper **frit** and through the sorbent to the lower **frit**. When the liquid **sample** flows through the lower **frit**, its drains into the outlet plumbing port located in the lower lid and on the opposite side of the column. . .

CLAIMS:

CLMS(7)

7. . . .
over said top and bottom openings of said column, said upper and lower lids each capable of evenly distributing liquid **sample** placed into

said column across said **frits**;
e. at least one plumbing port formed on each sa[redacted]upper and lower lid enabling a liquid sample to enter and. . .

US PAT NO: 5,660,727 [IMAGE AVAILABLE] L2: 6 of 27
US-CL-CURRENT: 210/141, 149, **198.2**, 511, 634; 422/63, 64

DETDESC:

DETD(73)

It . . . through the cell produced by the small bores 112 and particularly bore 113. Additionally, the solid matrix material of the **sample** resists flow, as do the two **frits** mounted across the inlet and outlet passageways. Accordingly, pressure has already begun to rise in cell 102 when static or. . .

US PAT NO: 5,653,885 [IMAGE AVAILABLE] L2: 7 of 27
US-CL-CURRENT: 210/634; 95/87; 96/105; 210/149, **198.2**, 511, 656, 742; 422/69

DETDESC:

DETD(36)

For . . . 2 for a 10 cubic centimeter volume to receive sample. After passing the extraction volume fluid, it is exhausted for **sample** collection through **frit** 160, passageway 260, fitting adapter 214 and out through fitting 46.

DETDESC:

DETD(46)

Before . . . is screwed onto the bottom of extraction tube 152. The internal cavity 158 is then filled or partly filled with **sample** to be extracted. The **frit** 162 and top cap 174 are then screwed on to the top of extraction tube 152 forming the cartridge and. . .

US PAT NO: 5,651,885 [IMAGE AVAILABLE] L2: 8 of 27
US-CL-CURRENT: **210/198.2**, 656

CLAIMS:

CLMS(2)

2. The liquid chromatography system according to claim 1 further comprising a biocompatible **frit** located within said column, wherein a **sample** injected via said **sample** injection means must pass through said **frit** before entering the passageway of said column.

US PAT NO: 5,626,757 [IMAGE AVAILABLE] L2: 9 of 27
US-CL-CURRENT: 210/635, **198.2**, 502.1, 656

DETDESC:

DETD(260)

Using . . . 10 is foam column 14, which is packed with glass beads 16. Air 18 is blown through piping 20, through **frit** 22 and into **sample** chamber 10. The air bubbles passing through sample 12 cause a foam to be formed. The height of the foam. . .

US PAT NO: 5,614,089 [IMAGE AVAILABLE] L2: 10 of 27
US-CL-CURRENT: **210/198.2**, 511, 634, 656, 659; 422/256, 261, 285

DETDESC:

DETD(37)

For . . . 2 for a 10 cubic centimeter volume to receive sample. After passing the extraction volume fluid, it is exhausted for **sample** collection through **frit** 160, passageway 260, fitting adapter 214 and out through fitting 46.

DETDESC:

DETD(47)

Before . . . is screwed onto the bottom of extraction tube 152. The internal cavity 158 is then filled or partly filled with **sample** to be extracted. The **frit** 162 and top cap 174 are then screwed on to the top of extraction tube 152 forming the cartridge and. . .

US PAT NO: 5,601,707 [IMAGE AVAILABLE] L2: 11 of 27
US-CL-CURRENT: **210/198.2**, 511, 634, 656; 422/256, 260

DETDESC:

DETD(28)

For . . . 2 for a 10 cubic centimeter volume to receive sample. After passing the extraction volume fluid, it is exhausted for **sample** collection through **frit** 160, passageway 260, fitting adapter 214 and out through fitting 46. The operation of the embodiment of FIGS. 1 and. . .

US PAT NO: 5,531,959 [IMAGE AVAILABLE] L2: 12 of 27
US-CL-CURRENT: 422/70; 73/61.56; 96/19, 22, 23, 102; **210/198.2**, 656, 739, 741; 422/62, 81, 89, 101; 436/161

DETDESC:

DETD(3)

In . . . methods, a column 28 (or tube 28) is provided having an internal stationary barrier or impediment 150, such as a **frit**, through which a **sample** 152, which includes the constituents to be separated, is initially disposed and adapted to be forced through the **frit** under pressure from a gas source. The **sample** 152 and the barrier 150 are serially stratified in the column 28. For a given sample, such as a blood specimen, a characteristic pressure curve is first called up from memory in a computer 140. As the **sample** is forced through the **frit** for analysis, the actual pressure used to move the sample is compared to the typical characteristic pressure curve to maximize. . .

US PAT NO: 5,462,659 [IMAGE AVAILABLE] L2: 13 of 27
US-CL-CURRENT: **210/198.2**; 96/106; 210/238, 656; 422/70

DETDESC:

DETD(38)

It . . . of the present invention provides for easy adjustment of the media bed via the locking mechanism, uniform flow of the **sample** by means of the configuration of the **frits**, and ready access to the interior for cleaning and sanitation purposes via the construction of the top cover and a. . .

US PAT NO: 5,338,448 [IMAGE AVAILABLE] L2: 14 of 27
US-CL-CURRENT: **210/198.2**; 96/101, 102; 210/656

SUMMARY:

BSUM(7)

Conventionally, . . . chromatographic column, a chromatographic system may also contain in-line frits located at various positions in the flow path. An in-line **frit** located between the **sample** injection valve and the separation column will also trap particulate material. A frit is replaced when it becomes plugged by. . .

DETDESC:

DETD(44)

The . . . hold an inline frit may be used. The guard disk may be positioned in any location in which a conventional **frit** would be used, i.e., between a **sample** injection port or loop and the separation column, between a pump and the sample injector, between a solvent reservoir and. . .

US PAT NO: 5,238,556 [IMAGE AVAILABLE] L2: 15 of 27
US-CL-CURRENT: **210/198.2**, 656

SUMMARY:

BSUM(10)

Additionally, for ease of use, the tube may be pre-packed with a chromatographic separation medium and permeable polytetrafluorethylene **frits** through which the **sample** must migrate before exiting the tube. The **frits** hold the separation medium in place within the tube during use and facilitate packing the tube during fabrication. The frits. . .

DETDESC:

DETD(15)

When the column 40 thus formed is used in a test station 10, a **sample** 22 must migrate through the porous polytetrafluorethylene **frits** 44 and each layer of chromatographic media 46 sequentially before exiting the column 40. Following the test, the column 40. . .

DETDESC:

DETD(16)

Another . . . is a gravity fed device with the sample 22 being fed into the top of the tube 48 from a **sample** reservoir 60, migrating through a first **frit** 44, the medium 46, a second frit 44 and dripping out of the bottom of the tube 48 into a. . .

US PAT NO: 5,147,538 [IMAGE AVAILABLE] L2: 16 of 27
US-CL-CURRENT: **210/198.2**; 96/101; 210/181, 541, 634, 656, 659; 422/70

DETDESC:

DETD(26)

Supercritical . . . stainlesssteel tubing capped with Swagelok stainless-steel zero-volume 1/4-in. to 1/16-in. column end fittings (SS-0-6-1ZV) containing 1.0-.mu.m pore size sintered stainless-steel **frits**. All **samples** were extracted with high-purity carbon dioxide (SFC grade, Scott Specialty Gases) at pressures of 300-400 bar for 30-90 min. Flow. . .

US PAT NO: 5,087,360 [IMAGE AVAILABLE] L2: 17 of 27
US-CL-CURRENT: [redacted]/198.2; 96/101; 210/181, 634, [redacted], 659; 422/70

DETDESC:

DETD(28)

Soil . . . stainless-steel tubing capped with Swagelok stainless-steel zero-volume 1/4-in. to 1/16-in. column end fittings (SS-0-6-1ZV) containing 1.0-.mu.m pore size sintered stainless-steel **frits**. All **samples** were extracted with high-purity carbon dioxide (SFC grade, Scott Specialty Gases) at pressures of 300-400 bar for 30-90 min. Flow. . .

US PAT NO: 4,966,696 [IMAGE AVAILABLE] L2: 18 of 27
US-CL-CURRENT: **210/198.2**, 510.1, 656; 419/8, 9, 46

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

US PAT NO: 4,911,837 [IMAGE AVAILABLE] L2: 19 of 27
US-CL-CURRENT: **210/198.2**, 510.1

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

US PAT NO: 4,876,005 [IMAGE AVAILABLE] L2: 20 of 27
US-CL-CURRENT: **210/198.2**

DETDESC:

DETD(9)

Referring . . . that its protrusion beyond face 36 is considerably reduced from its uncompressed state. This small gap forms a chamber or **sample** distribution cavity 48 between **frit** 30 and face portion 46, thereby providing a channel for liquid being pumped through the column to pass through between. . .

CLAIMS:

CLMS(5)

5. The assembly of claim 1 wherein said coupler member faces have centrally recessed portions for forming **sample** distribution cavities adjacent said **frit** respectively to allow **samples** to be radially evenly distributed.

US PAT NO: 4,863,592 [IMAGE AVAILABLE] L2: 21 of 27
US-CL-CURRENT: 210/96.1, **198.2**, 510.1; 422/70

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

US PAT NO: 4,765,890 [IMAGE AVAILABLE] L2: 22 of 27
US-CL-CURRENT: **210/198.2**, 510.1; 425/174.6, 406, 407, 421, 424

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

US PAT NO: 4,759,843 [IMAGE AVAILABLE] L2: 23 of 27
US-CL-CURRENT: **210/198.2**, 96.1, 510.1; 425/174.6, 406, 407, 421, 424

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

US PAT NO: 4,752,391 [IMAGE AVAILABLE] L2: 24 of 27
US-CL-CURRENT: **210/198.2**; 96/105

DETDESC:

DETD(3)

FIG. . . . 9 of mobile phase is sealed with the polytetrafluoroethylene cone 18 and the screw 19. The inlet tube 5 of **sample** is furnished with a **fritted** plate 6, screwed into the upper part 21 of the lower terminal 3 and sealed with the polytetrafluoroethylene cone 18. . .

US PAT NO: 4,676,898 [IMAGE AVAILABLE] L2: 25 of 27
US-CL-CURRENT: **210/198.2**, 656

SUMMARY:

BSUM(7)

Traditionally, . . . very similar to conventional chromatography. The column packings are compressed in a long, narrow bed between two bed supports or **frits** inside a long, narrow column. The **sample** is applied to the top of the bed and interacts with the packing material in one of a variety of. . .

DETDESC:

DETD(12)

1. . . . core to form the inner or collection channel and machining fine grooves on the outer surface of the outer porous **frit** to form the inlet **sample** fluid channel.

US PAT NO: 4,627,918 [IMAGE AVAILABLE] L2: 26 of 27
US-CL-CURRENT: 210/656, **198.2**

DETDESC:

DETD(4)

Inlet . . . distribution grooves or channels may be increased or decreased with the purpose thereof to provide an even distribution of the **sample** fluid around the **frit** 13 and packaging or chromatography material 22. While the grooves or channels 30 and 33 are illustrated as being on. . .

DETDESC:

DETD(8)

Flange . . . and used in chromatography and include but not limited to cross-linked agarose, polyacrylamide, or cellulose and the like. For a **sample** fluid consisting of proteins for example, the **frits** 13 and 16 would be constructed out of polyethylene, having a porosity in the range of from about 30 to. . .

DETDESC:

DETD(9)

Cylindrical . . . 16 and for defining the flow channel 17, serves as an exhaust or discharge distributor as the components of the **sample** fluid pass through **frit** 16 into the annular channel 17. The core 15, as illustrated, is of solid construction, but could, if desired, include. . .

DETDESC:

DETD(10)

In . . . the annular channel 14 surrounding porous frit 13, which then flows down and fills the channel or annulus 14. The **sample** fluid diffuses through the porous **frit** and flows horizontally in a radial direction through the packing or bed 22 of the separating chromatographic material. The separation. . .

US PAT NO: 4,545,904 [IMAGE AVAILABLE] L2: 27 of 27
US-CL-CURRENT: 210/96.1, **198.2**; 422/70

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

=> d his

(FILE 'USPAT' ENTERED AT 11:52:42 ON 24 AUG 1999)
L1 424 S SAMPLE?(7A)FRIT?
L2 27 S L1 AND 210/198.2/CCLST

US PAT NO: 4,545,904 [IMAGE AVAILABLE] L2: 27 of 27
US-CL-CURRENT: 210/96.1, **198.2**; 422/70

DETDESC:

DETD(15)

The . . . a similar end fitting 70 on the opposite end of the liquid chromatographic column 20 adapted to cooperate with a **sample** injector. The **frit** sleeve 92 is mounted at the end of the liquid chromatographic column 20 and has an outer end surface 105,. . .

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(FILE 'USPAT' ENTERED AT 11:52:42 ON 24 AUG 1999)
L1 424 S SAMPLE?(7A)FRIT?
L2 27 S L1 AND 210/198.2/CCLST

=> s sample(7a)preload?

314136 SAMPLE
21921 PRELOAD?
L3 188 SAMPLE(7A)PRELOAD?

=> s l3 and 210/198.2/cclst

1341 210/198.2/CCLST
L4 2 L3 AND 210/198.2/CCLST

=> d 1-2

1. 5,462,660, Oct. 31, 1995, High performance liquid chromatography injection system for the simultaneous concentration and analysis of trace components; John A. Singleton, et al., **210/198.2**, 659; 422/70 [IMAGE AVAILABLE]

2. 4,457,846, Jul. 3, 1984, Liquid chromatography methods and devices; Miner N. Munk, 210/656, **198.2**, 321.84 [IMAGE AVAILABLE]

=> d kwic 1-2

US PAT NO: 5,462,660 [IMAGE AVAILABLE] L4: 1 of 2
US-CL-CURRENT: **210/198.2**, 659; 422/70

SUMMARY:

BSUM(6)

U.S. . . . substances that are present in trace amounts which includes a concentration column and an analytic column. The concentration column is **preloaded** with **sample**, connected to the analytic column via a coupling member and a gradient elution is used to move the substance off. . .

US PAT NO: 4,457,846 [IMAGE AVAILABLE] L4: 2 of 2
US-CL-CURRENT: 210/656, **198.2**, 321.84

DETDESC:

DETD(19)

As . . . as that of the chromatographic column with which it is to be used. The permeable section of the cartridge is **preloaded** with the **sample** to be analyzed and this is them mechanically placed in intimate contact with the inlet end of the column with. . .

US PAT NO: 4,457,846 [IMAGE AVAILABLE] L4: 2 of 2
US-CL-CURRENT: 210/656, **198.2**, 321.84

DETDESC:

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As . . . as that of the chromatographic column with which it is to be used. The permeable section of the cartridge is **preloaded** with the **sample** to be analyzed and this is them mechanically placed in intimate contact with the inlet end of the column with. . .

=> d his

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L1	424	S	SAMPLE?(7A)FRIT?
L2	27	S	L1 AND 210/198.2/CCLST
L3	188	S	SAMPLE(7A)PRELOAD?
L4	2	S	L3 AND 210/198.2/CCLST